

**WHAT is claimed is:**

1. An optical data recording medium comprising a transparent substrate, a thin film layer formed on the transparent substrate and a protective film which is mainly comprised of a resin and formed on the thin film layer for protecting the thin film layer, wherein the thin film layer is a single layered or multilayered film including at least any one of a dielectric film, a recording film and a reflective film, and an expansion coefficient under humidity [ratio of expansion (1/%) where a difference of relative humidity (vapor content/saturated vapor amount at 25°C) is increased by 1%] of the protective film is greater than that of the transparent substrate and smaller than  $1.7 \times 10^{-4}(1/\%)$ .

2. An optical data recording medium comprising a transparent substrate, a thin film layer formed on the transparent substrate and a protective film which is mainly comprised of a resin and formed on the thin film layer for protecting the thin film layer, wherein the thin film layer is a single layered or multilayered film including at least any one of a dielectric film, a recording film and a reflective film, and a Young's modulus of the protective film is greater than that of the transparent substrate, greater than  $2.0 \times 10^9(\text{Pa})$  and smaller than  $1.0 \times 10^{10}(\text{Pa})$ .

3. An optical data recording medium according to any one of claims 1 and 2, wherein a thickness of the protective film is 5  $\mu\text{m}$  or more to 20  $\mu\text{m}$  or less.

5

4. An optical data recording medium according to claim 1, wherein the expansion coefficient under humidity of the protective film is 7 or less times as great as that of the transparent substrate, the expansion coefficient under humidity being greater than  $7 \times 10^{-6}$  (1/%) and smaller than  $5 \times 10^{-5}$  (1/%).

5. An optical data recording medium according to any one of claims 1 and 2, wherein the transparent substrate is made of a polycarbonate or a polyolefin and a thickness thereof is about 0.5 mm.

6. An optical data recording medium according to any one of claims 1 and 2, wherein the protective film is made of an ultraviolet light curing resin.

7. A method of selecting a protective film in an optical data recording medium, the optical data recording medium comprising a transparent substrate, a thin film layer formed on the transparent substrate and the protective film which is

mainly comprised of a resin and formed on the thin film layer  
for protecting the thin film layer, wherein, on condition that  
the thin film layer is a single layered or multilayered film  
including at least any one of a dielectric film, a recording film  
5 and a reflective film and the transparent substrate is made of a  
polycarbonate or a polyolefin with a thickness of 0.5 mm, the  
protective film is selected such that an expansion coefficient  
under humidity thereof (ratio of expansion (1/%) where a  
difference of relative humidity (vapor content/saturated vapor  
10 amount at 25°C) is increased by 1%) is greater than that of the  
transparent substrate and smaller than  $1.7 \times 10^{-4}(1/\%)$ .

8. A method of selecting a protective film in an optical  
data recording medium, the optical data recording medium  
15 comprising a transparent substrate, a thin film layer formed on  
the transparent substrate and the protective film which is  
mainly comprised of a resin and formed on the thin film layer  
for protecting the thin film layer, wherein, on condition that  
the thin film layer is a single layered or multilayered film  
20 including at least any one of a dielectric film, a recording film  
and a reflective film and the transparent substrate is made of a  
polycarbonate or a polyolefin with a thickness of 0.5 mm, the  
protective film is selected such that a Young's modulus thereof  
is greater than that of the transparent substrate, greater than  
25  $2.0 \times 10^9(\text{Pa})$  and smaller than  $1.0 \times 10^{10}(\text{Pa})$ .

